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Improving communication between hospital and primary care increases follow-up rates for asthmatic patients following casualty attendance

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Despite adequate access to primary care facilities, there is a group of patients who habitually present to hospital accident and emergency (A&E) departments when their asthma deteriorates. In Nottingham 50% of these patients are discharged from the A&E department without admission to hospital and are advised to inform and see their general practitioner (GP), but many fail to do so.

We instituted a system of identifying all patients seen and discharged from our A&E department with asthma and informing their GPs and practice nurses within one working day of the event by fax. To determine whether any action had been taken following receipt of our fax, we contacted each general practice 1 month after the A&E attendance in 100 consecutive cases.

Full data were available for 66 patients. Our faxes increased the notification of A&E attendances to GPs from 47 to 89%. This resulted in an increase in the number of follow-up appointments initiated by the practice, from 15 to 31. However, 29% of patients were not asked to attend for follow-up, in spite of the practice being aware of a recent A&E visit.

Improving communication between hospital and general practice increases the rate of follow-up by GPs for patients with asthma who have been discharged from A&E. This has the potential to improve asthma management for this group of patients.

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Background

Follow-up of patients who have experienced an acute exacerbation of their asthma sufficiently severe to warrant treatment at a hospital reduces re-admission rates and improves patient symptoms (1). About 50% of patients with asthma attending the University Hospital of Nottingham Accident and Emergency (A&E) Department are deemed not to require hospital admission and are discharged following treatment in the department. Such patients are advised both to deliver an A&E department discharge letter and to make an appointment to see their primary care practitioner [general practitioner (GP)].

In 1994 we performed a prospective study of 120 patients aged between 16 and 60 years who had been discharged from the A&E department after receiving treatment for an exacerbation of their asthma (2). We excluded patients who were likely to have had chronic obstructive pulmonary disease rather than asthma by careful review of their A&E records. The purpose of the study was to assess whether the advice given to patients about seeing their GP was followed and whether such patients had access to appropriate primary care for their asthma. We found that there is a subgroup of asthmatic patients who habitually use the A&E department rather than their general practice and that many of these patients fail to inform their GP that they had visited the hospital A&E department. Of these patients, 74% had been prescribed inhaled corticosteroids and 57% owned a peak-flow meter. There were 43% under active follow-up in a hospital or GP asthma clinic and over 90% were registered with local GPs. We concluded that the majority of these habitual A&E attenders had appropriate access to primary care, in keeping with other studies (3), but chose to present to A&E if their asthma was poorly controlled. As their GPs were often unaware of their A&E attendance, review of maintenance therapy was frequently not being performed.

In the light of these results, we attempted to improve communication between the hospital A&E department and GP practices regarding patients treated in A&E for acute

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asthma but not admitted to hospital. After consultation with the Nottingham Health Commission and a working group of local GPs and their practice nurses, it was felt that direct communication with the practice nurse would be the most effective way of improving follow-up for this group of patients. In the UK most GP practices employ a nurse who is responsible for much of the routine surveillance of patients with chronic conditions such as asthma and diabetes. These practice nurses often run designated clinics for follow-up of such patients.

A system was therefore set up in our unit whereby all A&E patient records are reviewed by a respiratory nurse specialist or trained audit clerk. For those patients attending the A&E department with exacerbations of asthma not requiring admission, a standardized fax is now sent to the patient's practice nurse informing them of the A&E attendance. A copy of the fax is also sent by post. For those GP practices without a fax machine (28% in our catchment area) the notification is sent by first-class post. We have now studied the effect of this intervention on follow-up rates in primary care for this group of patients.

Methods

To assess the effect of the new system of faxing practice nurses described above, 100 consecutive patient attendances at the A&E department with exacerbations of asthma were prospectively studied. The study commenced 3 months after the introduction of our faxed A&E discharge letter, to allow the system to become established.

Between 4 and 8 weeks after sending each fax to the patient's practice nurse, we sent a short questionnaire to the practice to determine the effect of the fax. If no response was received to the questionnaire, we attempted to gain the information by telephone interview with either the GP or the practice nurse. We documented whether the fax had been received and whether the patient had had a follow-up appointment (and if so, whether this had been initiated by the patient or the practice). We also documented whether the patient had hand delivered the A&E notification letter (given to *all* patients attending A&E) to their GP.

Results

Five patients had registered with different GPs since their A&E visit and were excluded from further analysis. We were able to obtain complete data for 66 out of the 100 patients. The first-class letters sent to those practices without a fax machine are included with faxes for the purposes of data analysis. Thirty-one patients (47%) hand delivered their letters from A&E (of which most were then followed by a fax from our office) as shown in Table 1. However, in 28 cases (42%) the fax was the only communication received by the practice regarding the A&E visit. Faxes were not received or were passed to the wrong person in the practice in 11 (17%) cases.

TABLE 1. Communication recorded as received by patient's practice following A&E attendance with asthma exacerbation

Communication	Number (%)
Patient delivered A&E letter+fax	27 (41)
Patient delivered A&E letter only	4 (6)
Fax only	28 (42)
No communication received	7 (11)
Total	66 (100)

Follow-up appointments were initiated by patients in only nine (14%) cases. Thirty-one follow-ups were, however, arranged by the practices, of which 15 were for patients for whom a fax was the only form of communication received, as shown in Table 2. Only four patients failed to attend for these 31 appointments. No action was taken by practices in 19 (29%) cases despite receiving notification of the A&E visit.

Conclusions

This study demonstrates that 53% of patients attending a large hospital A&E department with an exacerbation of asthma failed to inform their general practitioners of the event, in keeping with our previous study (2). The introduction of a faxed discharge letter from a respiratory nurse specialist to the general practice nurse increased practice notification to 89%. Subsequently we have trained an audit clerk to perform this service: an average of 20 min per day is required to review records and to notify practices by fax or first-class letter. In general, comments from practices have been highly supportive of the system.

The number of follow-up appointments initiated by the practices was doubled by faxed notification of an A&E attendance, and only a few patients failed to attend for these follow-up appointments. However, 29% of patients

TABLE 2. Action taken by practice in 59 cases where communication was reported as received

Action taken by practice	A&E letter+fax	Fax only	A&E letter only
Patient initiated appointment	7	2	0
Practice initiated appointment	15	15	1
No action	5	11	3

were not asked to attend for follow-up despite the practice receiving notification, and therefore an even greater follow-up rate could potentially be achieved. We achieved a response rate of 70% in collecting the data for patients still resident in the Nottingham area (five patients had moved away from the area), which is normal for questionnaire studies.

Improved communication between the hospital and practice nurses or GPs increases the likelihood of patients being followed up in primary care. This in turn can lead to better care through review of asthma medication and a reduced likelihood of repeated A&E attendances. In our area, we found that practice nurses were the best point of contact after A&E attendances, as many run dedicated asthma clinics in their practices. It is, however, disappointing that some patients were not followed up in spite of improved communication.

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References

1. Steigman DM. Is it urban or is it asthma? *Lancet* 1996; **348:** 143–144.
2. Johnson P. Sutherland A, Johnston IDA, Hall I. Emergency hospital visits for asthma. *Lancet* 1996; **348:** 556.
3. Reed S, Diggle S, Cushley MJ, Sleet RA, Tattersfield AE. Assessment and management of asthma in an accident and emergency department. *Thorax* 1985; **40:** 897–902.